## Towards Estimating Global Ocean Circulation Combining TOPEX/POSEIDON Aitimeter Data and an Ocean General Circulation Model

Ichiro Fukumori, Lee-Lueng Fu, Ramanujam Raghunath, and Yi Chao (all at Jet Propulsion Laboratory, Mail Stop 300-323, Pasadena, CA 91109 U. S. A.)

Preliminary results of an analysis of the global ocean circulation based on TOPEX/POSEIDON observations will be presented. Temporal variations of the ocean circulation are estimated by assimilating altimetric sea level measurements with a three-dimensional nonlinear primitive equation model. The numerical model is the GFDL Modular Ocean Model and the estimation procedure employs an approximate Kalman filter and smoother. The synthesis results in a dynamic interpolation of the altimetric measurements, which allows inferences of the three-dimensional circulation to be made.

Large-scale, basin-wide sea level variations are resolved, along with associated barotropic and baroclinic changes in the circulation. The estimates will be compared and validated against in situ observations. The dynamics and implications of the estimates will be described and discussed.

Dr. Ichiro Fukumori Phone: (81 8) 354-6965

Fax: (81 8) 393-6720

e-mail: if@pacific.jpl.nasa.gov

Dr. Ichiro Fukumori, Dr. Lee-Lueng Fu, Dr. Ramanujam Raghunath, and Dr. Yi Chao: (Jet Propulsion Laboratory, Mail Stop 300-323, 4800 Oak Grove Drive, Pasadena, CA 91109 U. S.A.)

Symposium: Dynamics of the Open Ocean from

New Satellites (PS-08).

Convenor: Dr. David M. Legler

Type of Presentation: Oral